

A COMMUNITY SHOPPING CENTER FOR
QUEZON CITY, PHILIPPINES

by

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FOREWORD

Quezon City, the Capital of the Philippine Islands, is a rapid-growing "urban-suburban" center. An outgrowth of the former capital, the port city of Manila, it was chosen in 1946 to take the place of the latter which had become too congested and urbanized, thereby rendering adverse effects upon the people's lives.

The capital site covers 14,459.5 hectares and a large portion is either undeveloped or partially developed. Steps towards the fulfillment of a comprehensive plan have been undertaken by the Capital City Planning Commission. The author of this thesis aims to introduce the modern unified and organic type of shopping center to the Islands; heretofore, shopping areas have been founded more on a personal speculative basis disregarding public convenience to a marked degree. For example, in Manila where land costs are high, private stores cover every inch of ground area without the concern for the provision of parking space. This is also true of government markets which are extremely congested with the mingling of freight and customer traffic.

There is additional incentive for the study of this type of problem owing to the increase in buying power¹ of the populace notwithstanding the decrease in the purchasing power of the peso.

Part of the program of the Commission is concerned with proper commercial zoning and design. These considerations were

1. Buying power--considering the increase in wage-earners and their salaries' average-increase from before the Minimum Wage Law and after.

incorporated to avoid the undesirable effects which result from the irrelevant juxtaposition of areas and forms. It was therefore the purpose of the author to present a design for a Community¹ Shopping Center which would truly become a part of the community environment, adding to its convenience rather than being a nuisance, contributing to its beauty rather than being an eyesore.

GOVERNING GEOGRAPHICAL FACTORS ABOUT QUEZON CITY

General Land Characteristics

Capital City is located in Luzon, one of the two largest of the more than 7,000 islands comprising the Philippines. The Islands lie in the north-south axis between $4^{\circ}40'$ and $21^{\circ}10'$ N Lat. The surface pattern is rugged. Volcanoes and earthquakes are proof of the instability of this Pacific rimland. Numerous rivers and tributaries break the land but only a few are navigable up to a few miles from their mouths.

Climate

The climate type is Tropical Rain forest of the Monsoon kind with slight modifications due to the elevation of the land surface. The gently rolling topography of Quezon City allows the sea breezes to affect the temperature favorably. The average annual temperature ranges from 65° to 85° with a little more than 10° to 11° variation during the warmest and coolest months; the relative humid-

1. Community--the synonym "district" will be used oftentimes in this thesis. A district of Quezon City is a group of self-contained neighborhood units, each of about 100 hectares.

ity is high.

According to temperature variations, there are three seasons:

1. Dry and temperate--November to February.
2. Hot--April to June.
3. Intermediate--March to October.

According to precipitation, there are two seasons:

1. Dry--seven months, from November to May.
2. Rainy--remaining five months.

Along the west coast, where Quezon City is located, these seasons are sharply differentiated.

From October to April the prevailing winds shift from the northwest, to the north, then to the northeast. These bring northern air masses over the islands which are greatly modified so that drops in temperature occur only occasionally. During summer, winds from the southeast bring equatorial air masses. The average precipitation ranges from a minimum of 40 inches. Typhoons hit the islands with greatest frequency anytime during July through December.

Natural Resources

Sixty species of timber are cut in large amounts. Mahogany is the principal commercial wood. Some species are used for interior woodwork, cabinets, and furniture to take advantage of their beautiful grain and color; some hardwoods are used for construction purposes. Coconut palms, cedar, ebony, gutta-percha, and teak are among other species.

Minerals that are being mined are gold, silver, copper, iron,

chromium, and manganese. Sandstone and limestone are abundant, marble is obtained from the island of Romblon and from the St. Theresa quarries in the province of Rizal. Granite is limited in amount.

THE PROPOSED SHOPPING CENTER SITE

The center site is situated in what could be considered as the old Quezon City which at present is the nucleus of the new capital. The designer chose the particular site in view of the following considerations (Plate I):

a. As zoned, the site is located amidst mixed developed and partially developed residential areas. The medium-density areas which immediately surround the commercial zone are in turn surrounded by high-density areas; this indicates prospective patronage from both low- and middle-classes.

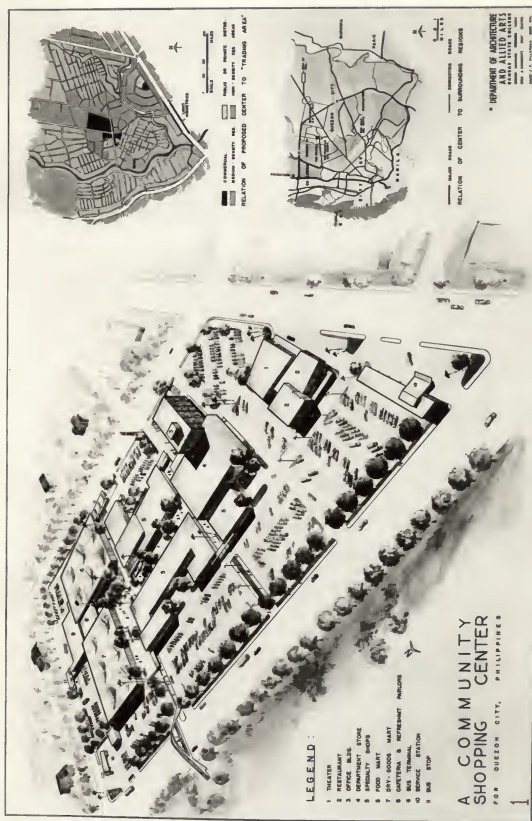
b. The zone where the shopping center will be located is much larger than other nearby commercial zones. It is intended by the designer to increase this available site in order to accommodate a large unified center conveniently planned with a complete assortment of merchandize which will not only act as a great attraction for customers in this district but also for those who live on the fringes of other districts.

c. The zoned center site is bounded on two sides by major thoroughfares, both 82 feet wide; on the west by Roosevelt Avenue, which is a feeder of the circumferential road (Liberation Avenue); and on the south by Del Monte Avenue, leading from a heavy industrial zone. The east side is bounded by a 65.6 foot wide "neigh-

EXPLANATION OF PLATE I

- Left: Aerial perspective of the shopping center.
- Upper right: Map showing relationships of the center to its district.
- Lower right: Map showing relationships of the center to the regions.

PLATE I



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borhood distributor" street, Judge J. Luna St.; on the north side a small dirt road leads from the above street and terminates at a dead-end.

For the purpose of this thesis, the author proposed that the owner-developer of the shopping center would be the government. Petition would be filed for the purchase of the residential area on the north of zoned site and add this and the dead-end road to the site in order to form a consolidated huge area. The new north side would then be bounded by the existing 32.8 ft. wide local street. Products from light industrial areas would be brought in from the north through Judge J. Luna St. and from the south through Roosevelt Ave.

The final site dimensions would be: on the north, 720 ft.; on the east, 1049.6 ft.; on the west, 1213.6 ft.; on the south, 596.4 ft.

d. The smaller commercial entities nearby although in competition would act as a balance under government control.

e. The district of the shopping center lies between the district of Bagumbato on the north and San Francisco del Monte on the south. The former is partially developed while the latter is fully developed. The center and its immediate environs lie between a fork of the San Juan River navigable only by small watercraft.

Besides the above, the direct regional relationships of the center are the port city of Manila on the southwest from which most imported goods will come; Navotas¹ will supply fish; Malinta¹

1. These three towns are located on the west coast of Rizal province which surrounds Quezon City.

Meycauayan¹ will probably become a large food center. The central and southern provinces and the various industrial zones of Quezon City will bring in products. A central food-distributing center is located at the entrance to the city near the Republic Ave.

Quezon City is divided into four major Districts--the Metropolitan Area, 7,627 has.;¹ the North Neighborhood District, 2,785 has.; the West Neighborhood District, 1,766 has.; and the South Neighborhood District, 2,281 has. The center is located in the West Neighborhood District and would to a certain degree affect relationships with the Metropolitan, North, and South Districts.

f. Service utilities are available--water, sewerage and drainage, telegraph, and telephone.

g. Topography is relatively level, thus avoiding expensive cuts and fills. The site is part of the slope drop on the west of the gently rolling terrain of Quezon City which averages 200 to 300 feet above sea level.

The soils in Quezon City are called Novaliches series; in the lowland area the soil types are loam, clay loam, and clay loam adobe. Surface and subsoil consistency is friable and structure is granular with spherical iron concretions; lower subsoil upper strata of light yellowish brown tuffaceous material sometimes exposed due to erosion. Under this is compact and massive adobe rock.

In Appendix II, p. AP-5 of the Report of the Capital City Planning Commission, March, 1949, the "Profile of the Novaliches Clay Loam Adobe" is given and hereby restated:

1. Has.--abbreviation for hectares.

Depth of Soil (cm.)	Characteristics
0 to 5	Brown, loose and friable loam to clay loam.
5 to 20	Dark-brown granular clay loam with gravel and concretions.
20 to 35	Adobe clay loam with concretions and gravel, highly weathered tuff.
35 to 60	Weathered adobe rock, slightly compact.
60 plus	Compact and massive adobe rock.

POPULATION AND ECONOMIC FACTORS

Owing to the northeast expansion of Manila, Quezon City will continue to absorb the populace forced out by the congested, inadequate, and repulsive living conditions. The further development of the City's commercial and industrial centers as well as its governmental, cultural, educational, and recreational institutions will provide work and income which inevitably will attract the people and allow them to live closer to their places of work. In 1949, the population was 107,977, with a density of 528.6 persons per sq. km. A prediction of 664,927 population in 1969 is anticipated by the Capital City Planning Commission.

Most of the present population derive their economy from Manila; however, the aforementioned developments will assure the capital a firm economic future.

Prospective tenants for the center will be more influenced by well-presented economic facts than by architectural plans because the latter must obviously be modified to suit the tenants'

desires. A "market analysis" has to be prepared by an impersonal economist or an expert in this field. The analysis would involve a mapping of the "Trading Area" (the area from which trade with the center may be expected) and its "buying power" (quantity of retail purchases by residents in the Trading Area). In this thesis this analysis was foregone and feasibility of the construction of the center was assumed.

SHOPPING HABITS OF THE PEOPLE

Food buying is done daily or every two days. Fresh unfrozen foodstuffs are preferred to the frozen. Very few can afford a refrigerator owing to the import tax. Unless a family lives at a considerable distance from the commercial area daily marketing is preferred. The refrigerator holds a rather minor role in the average household.

Food marketing starts early in the morning soon after fresh foods arrive. Therefore the greatest accumulation of people in the market is in the morning.

Haggling is a custom and comparison shopping highly indulged in.

Liberal handling of items is allowed for scrupulous selection by the customers.

Transportation is chiefly done by bus and jeepney.¹ Only a very small number of the population own cars, since these are imported and their cost is beyond the average means. Car-owners

1. Jeepney--a jeep converted to accommodate more passengers.

generally belong to the middle-class who normally have domestic help. These servants use the public-utility transportation for their marketing.

The relatively few car-shoppers who buy convenience goods would rather patronize the "exclusive" supermarket. When these people go to the open market it is usually to buy fruits from stalls located on the periphery of the market without having to mingle in the "core" of the market. These shoppers patronize mostly the shopping-goods stores for personal choice and satisfaction.

MANAGEMENT AND OWNERSHIP

As stipulated in the Report of the Capital City Planning Commission, the government would own the market.¹ This agency would acquire all lands in the commercial zones and lease them to the various business establishments. In view of its large size, it is advisable that the whole center be owned, developed, and managed by said agency in order to preserve homogeneity between its various elements both in their functions and appearance.

Parking, public facilities and landscaping may be economically planned for the whole center, eliminating large expenses should each shop provide and maintain its own.

Control over the surrounding entities could relatively be exercised by the government with much more effectiveness than a private developer could to the end that favorable and not destructive competition is achieved for all.

1. Area allowance for market = 2.00 has. or .909 acres.

NECESSARY ELEMENTS OF THE SHOPPING CENTER

As stated in the Report of the Capital City Planning Commission, March, 1949, the district commercial center should contain a market, theatres, large stores, and professional and business offices. Furthermore, except for the market, the elements included in the proposed center are listed under the categories of Business 1, 3, and 4--office buildings of concrete and of three or more stories, with the ground floor used for high-class stores, department stores, and grocery stores (food kept in cooling units); also gasoline and automobile service stations, dance halls and dancing academies, etc. Buildings should be of concrete and arcaded.

Table 1. Elements of the proposed shopping center (see Plate II).

	Name of element	Size in feet	Area in sq. ft.
Market	(1. Food Mart	160 x 240	38,400
	(2. Dry-Goods Mart	160 x 240	38,400
	(3. Cafeteria	80 x 90 + 20 x 50	8,200
	(4. Small Refreshment		
	(Parlors (3)	20 x 32 each	1,920 (total
	(Large Refreshment		area)
	(Parlor	20 x 47	940
	5. Supermarket	40 x 100	4,000
	6. Large Bakery Shop	40 x 80	3,200
	7. Candy Shop	20 x 60	1,200
	8. Sports Goods Store	20 x 40	800
	9. Luggage and Leather Goods Store	20 x 40	800
	10. Variety Store	40 x 60	2,400
	11. Curio Shop	20 x 60	1,200
	12. Made-to-Order and		
	Repair Shoe Shop	20 x 60	1,200
	13. Shoe Store	40 x 60	2,400
	14. Shoe Store	40 x 80	3,200
	15. Yard-Goods Store(2)	20 x 80 each	1,600 each
	16. Tailor Shop (2)	20 x 80 each	1,600 each
	17. Dressmaker Shop(2)	20 x 80 each	1,600 each
	18. Department Store	130 x 160	20,800
	19. Small Concession(2)	10 x 20 each	400 (total
			area)

Table 1 (cont'd)

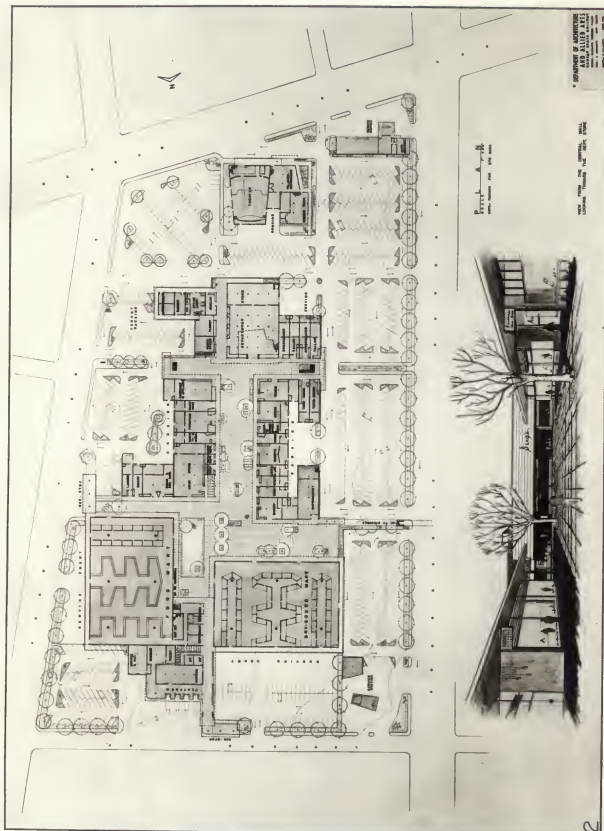
Name of element	Size in feet	Area in sq. ft.
20. Photo Studio	30 x 40	1,200
21. Florist Shop	40 x 40	1,600
22. Jewelry Store	20 x 40	800
23. Lobby of Office Bldg.	40 x 40	1,600
Office floors (3)	120 x 60	21,600 (total area)
24. Barber Shop	20 x 40	80
25. Beauty Shop	20 x 30	60
26. Barber Shop	20 x 30	60
27. Hardware and Appli- ance Store	40 x 100	4,000
28. Hardware Store	20 x 80	1,600
29. Furniture Store	40 x 80	3,200
30. Radio, TV, Record, and Music Store	20 x 80	1,600
31. Radio Repair Shop	20 x 20	400
32. Watch and Clock Repair	20 x 20	400
33. Photo Shop	20 x 20	400
34. Drug Store	60 x 100	6,000
35. Books and School Sup- plies	60 x 60	3,600
36. Small Bakery Shop	20 x 60	1,200
37. Laundry	20 x 80	1,600
38. Bus Terminal and Pub- lic Toilets	100 x 105 + 53 x 53	13,309
39. Bus Stop (2)	24 x 72 each	3,456 (total area)
40. Small Service Station	35 x 40 + 25 x 50	2,650
41. Large Service Station	30 x 140 + 30 x 30	5,100
42. Theatre	70 x 110 + 20 x 70	9,100
43. Philippine-American Restaurant	2 x 30 x 24 + 55 x 60 + 63 x 65	9,835
44. Chinese Restaurant	50 x 55 + 60 x 70	6,950
Total Gross Sales Area (Mezzanines not considered)		240,460
Parking and Service Areas	approx.	426,000
Landscape, Malls and Walks	approx.	57,000
Total Lot Area		696,257.875

EXPLANATION OF PLATE II

Upper: Plan of the shopping center. Arrows indicate flow of vehicle traffic.

Lower: Perspective taken at the central mall looking towards the department store.

PLATE II



PLANNING AND ORGANIZATION OF STORES AND SHOPS

The "mall-type" plan was chosen in order to produce a concentration of pedestrian traffic along the stores and shops at the same time separating them from traffic hazards as well as from parking and street views. Impulse sales are encouraged and the arrangement affords a large interior area for landscaping for cool comfort and a pleasant and gracious environment.

To create another form of "downtown" was an aim. To provide a wide variety of merchandise in the majority of these stores (branches of well-known stores) would be part of the center's program.

The main "pullers"¹ are the market, department store, and drug store. Between them are the smaller tenants so that these may benefit from the pedestrian traffic generated by the former. The market with its enormous variety of goods would be in competition with the rest of the stores. The latter would have to sell better quality goods than those offered by the small market tenants. The variety store is situated in the middle of the mall to serve as a counter-pull from the department store and the dry-goods mart.

The service shops--barber, beauty, photo, tailor, dressmaker, studio, radio repair, watch and clock repair, shoe repair, and laundry--are placed in scattered locations to attract trade to the other stores.

1. Pullers--stores which draw the most customers.

Grouping by the type of merchandise sold was another aim in order to facilitate easy comparison of values. The specialty shops have been grouped on both sides of the mall near its main puller. On one side near the department store are the yards-goods, stores, shoe stores, variety, curio, leather and luggage, and sports stores. On the other side are the hardware and appliance, furniture, radio and TV stores. Under the department store on the arcade is the jewelry shop. The drug store will pull customers from all directions.

Related or competitive stores are placed close to each other. The tailor and dressmaker shops are situated close to the yard-goods and department store. To encourage ensemble buying the shoe stores are situated next to this group. Hardware and appliance, furniture, radio and TV, and radio repair shops are related to each other and compete with the department store.

With a view to present suggestive ideas to the customer, the jewelry and flower shops were placed together; the barber and beauty shops near the photo studio; the curio, sports, and luggage stores together.

The supermarket, large bakery, and candy shop which would handle better-quality food would cater to the car-shoppers in particular. Although segregated from the food mart, the group is nevertheless closely related to facilitate comparison of price and quality by both car- and market-shoppers. Furthermore, this separation helps to give a distinct air of exclusiveness to the middle- and upper-class shopper.

REMARKS ON PARTICULAR BUILDING ELEMENTS

Market

The general characteristics of the Philippine open market are as follows: An open shelter divided into sections for the sale of food and merchandise. Each section contains stalls rented out at a low rate. Shopping goods are generally of a cheap quality; foods are usually fresh and not frozen; bulk of patrons are from the low-class. Particularly in the morning hours great crowds gather and the place inevitably gets very dirty. There is much loud barking, haggling, and handling of goods. Quarrels are not unusual. Unlicensed vendors carry their merchandise through the crowds or set themselves up anywhere; there is much scampering when an official shows up. The tenants' wares encroach upon the pedestrian ways, children selling paper bags tag along shoppers, laborers with their load of goods wend their way through the crowds, and thieves and pick-pockets go about their "business." The utter tension, confusion, congestion, heat, and dirt always tell on the marketeer.

This type of market would obviously be out of place in a modern shopping center unless effort was made to eradicate its evils. It was the author's purpose to design a structure which would meet most of the shopping habits of the people and at the same time provide a better environment. Following is a suggested program for the market:

1. Functional and esthetic planning of the building and its sections. The designer has divorced the food and the dry-goods by

sheltering them separately.

2. Unified stall designs.

3. Channeling of freight for the stalls by means of malls between the stall rows.

4. Restrictive measures regarding the care, maintenance of order, and cleanliness of the stalls. Awards to be granted to tenants who obey these measures.

5. Ample areas for the gathering of buyers per stall. Tenant encroachment on shoppers' concourse to be strictly prohibited.

6. Tenant pays for facilities (electricity and water) on a metered basis. Subletting and division of the stall to be prohibited.

7. Sanitation to be promoted by ample garbage cans and cuspidors.

8. Barking with the use of loudspeakers and megaphones to be prohibited.

9. Increase of control of keeping out unlicensed vendors by perimeter enclosure of the market and sincere officials.

Supermarket

The characteristics of the Philippine supermarket are similar to those of the American except that fresh food that can normally be bought from the open market is hardly sold. Only those types of frozen food which are supposed to last long are sold with the canned and bottled food. The clean, well-arranged, and good ventilation as well as the self-service, fixed prices, and provision of parking provide an attraction for the middle- and upper-class

car-shopper. Prices, however, are on a higher level than those in the open market. Their visits may not be regular, since their domestic help are sent to the open market for the daily food; in fact, shopping in a supermarket takes on a form of recreation where one gets pleasure out of an innovation, to meet people of high standards, and to be able to buy better quality food of one's own choice without having to suffer the tension and confusion of crowds.

Bakeries

Better quality and larger assortment of baked goods will be sold at a large bakery.

A small bakery would cater mostly to the Food Mart patrons, for it would sell cheap-quality baked goods.

Candy Shop

Either imported better-grade candies or high-quality "home-made" candies will be sold in the candy shop.

Hardware and Appliance Store

Appliances are mostly imported or foreign branch agencies establish their offices in the metropolitan business center. Local factories which make the bodies but import the machines have their offices in the downtown area. On account of the exorbitant prices, appliances do not sell readily. The trend has been to combine hardware and appliances to encourage sales.

Curio Shop

In the curio shop only Philippine goods will be sold. Foreign goods are handled by other stores--variety, department, etc.

Yard-Goods

It is cheaper in the Philippines to buy cloth by the yard and then have it sewed by the tailor or dressmaker rather than buy ready-made clothes in a women's shop, etc.

Drug Store

The absence of a soda fountain is typical; only drugs are sold in the Philippine drug store.

Photo Shop

In the photo shop a few cameras and camera parts would be sold; main business would be developing and printing films.

Cafeteria and Refreshment Parlors

These were designed in lieu of the usual market stalls which serve as snack bars, and which are not always sanitary and attractive. Patrons would comprise mostly the low-class shoppers, market tenants, terminal employees, and minor store employees. However, the larger parlor facing the playground would be cooled and designed to cater to the higher class of shoppers. The Cafeteria overlooks the playground, while the small parlors face the arcade to the bus stop and bus terminal.

Theatre--Restaurant Group

The exorbitancy of prices and import taxes plus the very slow development of the TV industry in the Islands have, and will for an indefinite time, rendered the possession of a TV set illogical if not impossible for the average home. It was therefore necessary to incorporate a theatre in the design. Together with the restaurants they form a "night section." This is located very visibly from the three streets and not incorporated in the mall in order to attract a wider range of patrons. Setting it back from the street not only conforms to the zoning requirement of having an adequate front yard to allow for necessary future widening of the street but also provides a recessed area for access to vehicles.

The theatre has a seating capacity of 800 to be accommodated on orchestra and balcony levels. Two restaurants were considered advantageous to provide--one--for Philippine and American dishes, the other--Chinese.¹

The restaurants will serve theatre patrons, office building tenants and their patrons, middle- and high-class shoppers, passing motorists, and patrons of the nearby service station. Although the space was limited, pleasant views were provided for the diners by means of landscaping.

Bus Terminal

This element was included to meet the provision of the Capi-

1. The culinary taste of China is one of the few phases of its culture which have been adopted by the Filipinos.

tal City Planning Commission for bus terminals at all public markets and district business centers. The proposed terminal is for interprovincial purposes, particularly to serve rural folk who are either commuting to and from the City during weekends or who bring in their wares to be sold in the market. Since there is much activity at the terminal, it was deemed preferable to have it situated at the rear of the center. Its location adjacent to the bus-stop would be a step-saving advantage to the passengers who wish to proceed to other parts of the City.

Its large waiting room is surrounded by the canopied concourse. The office is centrally located to afford supervision of the surrounding spaces. The public toilets also serve the terminal. The parking area for taxis and cars which will bring in as well as meet bus patrons is located nearby; however, there is a conceived extra number of parking stalls which could be used by shoppers.

Office Building

Because the principal patrons are non-shoppers, the main entrance was made to face Del Monte Ave., although accessibility to it from within the center is easy. Of four stories, it will house on its three floors doctors, dentists, and other professional and business offices which do not require display cases on the ground floor.

Laundry

This is situated near the bus-stop and parking area in order to receive or dispose of laundry with a minimum of time and energy

for the customers. A delivery truck would be an asset. It has a yard for clothes air-drying.

Service Stations

Two have been provided--one located at the corner of Roosevelt Ave. and Lantana St., and the other at the corner of the two avenues. The first will serve the numerous buses and jeepneys which serve the center's patrons and tenants, and also passing motorists. The second will serve passing motorists and car-shoppers of the center and the surrounding entities. Its large service space would be a great attraction.

The two service stations would therefore have favorable competition with each other.

STORE SIZES AND AMENITIES

Each bay is designed on a 20 ft. x 20 ft. module, allowing for flexibility. The larger stores could easily be made up of two or more bays and any store expansion could be done without major alterations. According to the classification of stores, the store widths and depths were adjusted as the designer saw adequate for their use.

Show-windows are of the display-case type for most of the stores. It was considered by the designer that the open front is more suitable for air-conditioning wherein the doors can always be kept closed. The expensive cooling systems are used by a few large concerns and first-class shops. Most large department stores have to eliminate this convenience if they are to sell

goods at attractive prices. When this is the case large doorways are provided and kept open for the easy flow of air; window displays are placed in cases for safekeeping. However, it is the aim to provide such cases with clear plate glass backing to give an "open front" effect.

EXPANSION

The high relative humidity and cost of air conditioning render the construction of basements inadvisable. Storage mezzanines would be installed at the tenants' wishes. Future expansion for any store will be done by adding one or two floors above it or by overleapping others in order to prevent encroaching on parking spaces. Ducts and piping are eliminated from the rear walls to ease expansion expenses so the stores above could project out from the rear.

Addition of more shops will be accommodated as a second-store "shopping center" over the existing mall stores. Corridors, overpasses, and wide stairs will facilitate pedestrian circulation, while freight will be brought up by elevator to a central freight-distributing area. This area could be well located over the proposed laundry.

PROTECTION

Shelter from inclement weather is provided for by the 8'0" continuous canopies of the shops, wide roof "overhangs"¹ of the marts, arcaded car-stops, roofed bus stops; by the arcade under

1. "Overhangs" constitute the overhanging spaces of the roof shells from the wall lines.

the department store leading to the office building; the arcade under the cafeteria, by the cantilevered floors and vertical and horizontal baffles of the office building, and by the abundant shade trees.

FREIGHT AND SERVICE

Service courts are formed behind the stores by the plan arrangement. The "marts" have the largest courts. The Food Mart court is completely segregated and sufficiently screened to provide shelter for the activity that goes on, particularly during the down hours when food is brought in. This area also gets dirty and wet due to the drippings from fresh fish, meat, etc., and the dirt from live pigs and fowl. The service court of the Dry-Goods Mart is not as busy, since these goods do not have to be brought in daily by the same tenant. Some shoppers' parking was located in the same area after sufficient service movement was provided.

The next largest court is that of the department store in order to cope with the large amount of freight deliveries. The supermarket has limited freight deliveries and does not need a large court because of the relatively stable goods it handles.

The cafeteria and refreshment courts will be serviced through one of the food mart service malls. Some shops do not need a special service court because they either receive freight by parcel post or vehicle delivery is done but once in the daytime or they seldom need vehicle freight service. They are as follows:

Photo Shop	Photo Studio
Radio Repair Shop	Barber and Beauty Shops
Watch and Clock Repair Shop	Tailoring and Dressmaking
Flower Shop	Shops
Jewelry Shop	Small Concessions

Garbage from these would have to be gathered in one of the service courts. Truck garbage collection is handled late at night and early in the morning by government service.

Trees and bushes screen the courts from public scrutiny.

TRAFFIC AND PARKING

The Planning Commission ruled that there should not be parking in the main streets; that parking should be off-street; and that office buildings, department stores and theatres were to be provided with parking areas.

To avoid congestion due to the increase in traffic caused by the center a minimum of entrances and exits was allotted. Seventy per cent of the customers will arrive on buses, jeepneys, or on foot; 30 per cent will use cars, taxis and other private vehicles. A ratio of 2:1 of parking area to store ground-floor area was considered adequate for the center. The two bus-stops are located near the market so that disposal of crowds is easily facilitated; both are located on minor streets to avoid getting entangled with major traffic.

For the theatre and restaurant group, which will be mostly patronized during the evenings and late afternoons, one parking stall for every 10 theatre seats is adequate for the theatre pa-

trons and the rest of the parking area for the restaurants'. The same areas will be used mainly by the office building during the day.

Tenant parking space is provided for the office building and shop tenants; market tenants and minor employees usually take the public transportation services.

All parking is on ground level. Access from the parking areas and bus-stops to the principal mall is through the secondary axes along which are shops to draw the customers in.

It was considered inadvisable to provide special service lanes in order to utilize more area for parking spaces; however, freight courts were provided to prevent congestion while loading and unloading goods.

The parking aisles near the mall stores are generally set at right angles to the walkways which lead from the peripheral side-walks to the secondary axes of the mall. This arrangement would prevent many blind crossings and squeezing between cars. On the left side of the theatre-restaurant group the parking aisles are set at right angles to it, while the direction of those in front of the office building is governed by the shape enclosed by the site boundaries.

Access roads from entrances are two-way. To save space, overlapping pattern of stalls was used as much as possible. Dimensions used are--for the 60° stalls, 17.5-ft. perpendicular stall depth x 10.3-ft. curb length/car, one-way 15-ft. aisle width; for the 90° stalls, 18-ft. stall depth x 9-ft. curb length/car, two-way 28-ft. aisle width. Each stall is separated by a 2-inch

painted space-marker line in order to avoid straddlers.

SIGNS

Across Roosevelt Ave. the pedestrian overpass bears the center's sign; at right angles to Judge J. Luna St. is a tall concrete sign; both of these are also readily seen by those driving along Del Monte Ave. (Plate I). These signs are located in such a manner as to guide the shopper to the main body of the center. The theatre and regular restaurant on Del Monte Ave. identify the center by their names. The center would be known as the DM Shopping Center.

Except for the theatre, marts, bus terminal and service stations, all stores have $2\frac{1}{2}$ -x 5-ft. unified signs placed below the canopies or arcades at right angles to the pedestrian traffic. Except for the department store, each has its sign over a recessed entrance at the same height from the floor.

The office building and marts do not need any signs, for these are identified with the center, as the DM Office Building and the DM Market, respectively. The office building would contain a directory in its lobby but the market tenants generally do not use any name signs. Signs identifying the sections of the marts as Fish, Vegetables, etc., are to be hung from the roof at right angles to the flow of customers.

Parking areas would have the necessary signs to guide the motorists in the traffic flow.

Billboards are prohibited within the City, advertisements would have to be carried out by newspapers and other printed mat-

ter, radio and TV. Two billboards outside the City leading to Del Monte Ave. and to Liberation Ave. would be of some value.

LANDSCAPING

The Planning Commission has as a directive the propagation of palms and tropical trees. This was incorporated in the landscaping scheme along with the purpose to create a cool and relaxing atmosphere to induce shoppers not only to buy their immediate needs but to make them linger for impulse shopping.

Another aim was to keep landscape maintenance at a minimum; thus native trees and plants would be used, no lawns provided. Coconut trees, large tall shady acacias, 1½-stories-high guavas, ferns, and bushes are suggested. Planted islands in the mall are arranged in such a way as to allow freedom of shoppers to cross from shop to shop with the least detouring. The mall would be paved with large blocks of limestone to allow for growing grass between the joints. The landscaping and the shadows created would greatly minimize reflections on show-windows.

A play area for shoppers' children is located near the market.

Most of the functional end-shapes of the parking areas would have native bushes and plants.

Service courts are screened with islands of trees and bushes. To preserve the neighboring residential values, buffer planting along most of the north, east, and west sides is suggested.

STRUCTURES AND MATERIALS OF CONSTRUCTION

The Planning Commission directs that no temporary structures are to be constructed in Capital City.

Except for the bus terminal for which is used a module of 18 ft. x 18 ft. and for the market 86.6 ft. x 90 ft., a module of 30 ft. x 20 ft. is used for most of the buildings.

The marts and bus-stops have saddle-shaped concrete shell roofs supported on composite steel and concrete columns. For each of the roof shells of the marts bracing for stiffening is done by tension rods attached from lugs to a central tension ring. These lugs project from the concentric reinforcing rods of the shell. The 24-ft. x 24-ft. bus-stop shells do not need stiffening braces. To work against the upward wind thrust, special plates are provided upon which the "apex" of the roof shell rests. These plates are riveted to prefabricated diagonal steel braces which in turn are bolted to the steel column section. In addition, anchor bars are extended from the shell and welded to the steel column.

Prestressed flat slabs on R. C. columns are used for the car-stops and service station canopies, while the beam-and-girder system on R. C. columns is used for the rest of the buildings. Columns and footings would be designed to take care of additional weight to be caused by vertical expansion.

Concrete flue-lining shaped blocks, especially for the market, and plastered concrete hollow blocks are used for exterior walls; partitions between stores and offices are concrete hollow blocks. Wood and other light native materials could be used for sub-partitions.

1.R. C.--reinforced concrete.

EXPLANATION OF PLATE III

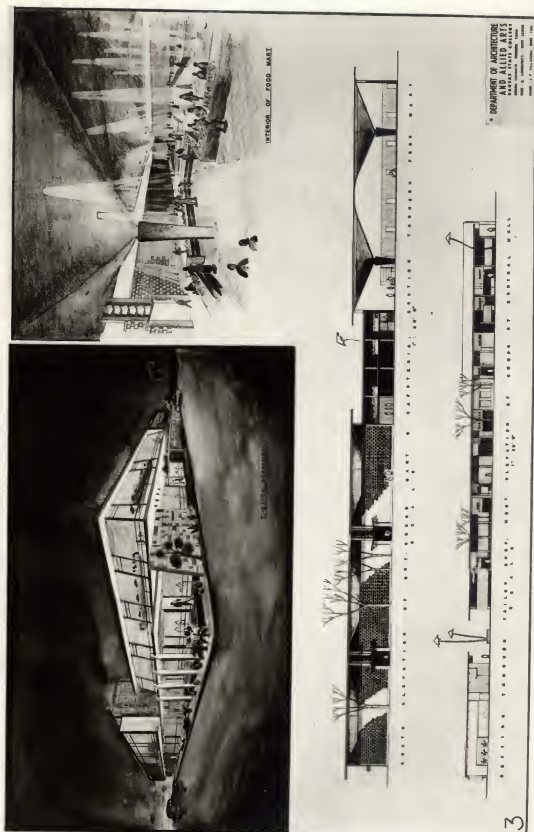
Upper Left: Perspective of the theatre-restaurant group, the "night section."

Upper Right: Interior view of the Food Mart.

Center: The Market, showing elevations of the Dry-Goods Mart, Cafeteria and Refreshment Parlors; section through the Food Mart.

Lower: In the central mall looking towards the west section through a tailor shop; elevation of mall stores.

PLATE III



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A COMMUNITY SHOPPING CENTER FOR
QUEZON CITY, PHILIPPINES

by

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THE PROBLEM

The rapid growth of the capital of the Philippine Islands, Quezon City, called for definite steps towards a planned wholesome development. Plans were laid out and a comprehensive program submitted by the Capital City Planning Commission. The program indicated areas to be zoned and outlined their character and relation to other areas.

Basically, the community shopping center which is the subject of the thesis is concerned with a view to contribute not only to the beauty but also the organic functioning of the City. Its execution would pioneer a modern trend heretofore nonexistent in the Islands.

In order to produce a truly functional scheme and not merely a transplanting of foreign ideas, extensive research concerning the locality, the people, and the region was necessary. This information provided a basis for a proper evaluation of the needed facilities for the center. The tropical climate calls for a considerable amount of protection from the natural inclements. The site itself--its location, size and slope, topography and geological conditions, utilities, and relationship to the immediate surroundings and to the region--helped to dictate the size and shape of the center and the layout and organization of its elements. Income and shopping habits of the people influenced the character of the stores.

THE SITE

The site of the center is situated in the midst of developed

and partially developed neighborhoods composed of low- and middle-class residences. It is bounded on the south and on the west by major thoroughfares, on the east by a neighborhood distributor street, and on the north by a neighborhood road.

The small sites across the west and south roads are also zoned for commercial use but are not suited for incorporation into the center site. A large and well-integrated shopping center is desirable for effective controlled competition. Ownership and management are assumed to be by the government.

THE DESIGN

The mall type of plan was adopted and related to the size and shape of the lot. The principal mall with stores flanking both sides is terminated with secondary axes malls that provide access from the parking areas and the bus-stops. At one end of the central mall is the department store, while at the other end are the marts and drug store. The specialty shops are arranged in relationship to these "pullers" and with each other.

In the design of the stores themselves the shopping habits of the people were a major consideration. A modification of the typical open market was necessary. Well-ventilated enclosures, functional freight and customer channeling, and integrated stall layouts are introduced to eliminate the typical objectionable features.

A bus terminal at the rear of the center serves commuting provincial people, particularly those who bring their wares to the marts.

A theatre-restaurant group forms a "night section" and is set apart from the rest of the center. Its strategic location will attract the most patrons at night.

A four-story office building contains the community's business and professional offices, shops, and academies.

The designer attempted to illustrate the most effective use of space for merchandising and circulation. A ratio of 2:1 (2 sq. ft. of parking to 1 sq. ft. of gross building ground area) is provided in consonance with the customers' transit systems. Easy and effective traffic flow (both within and without the center) was a major consideration. Freight and service courts are provided behind the stores and sufficiently baffled by trees and plants.

Landscaping is planned to create a relaxing atmosphere, provide shade, add to the esthetic value of the center, and require a minimum of maintenance.

Reinforced concrete structures are used. Saddle-shaped shell roofs for the marts and bus-stops are not merely novelties, but attempt to express their functions. Prestressed flat slab, and the beam-and-girder systems, are used for the other buildings.